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T H E

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THE PRAIRIE WOLF, OR COYOTÉ: CANIS LATRANS.

BY DR. ELLIOTT COUES, U.S.A.



A large amount of fresh material, gathered on the Upper Missouri, may furnish some data bearing upon the question, now agitated, of the resemblance of the coyoté to the dog of the bronze period. The examination is made of about twenty skins with skulls, and several specimens in the flesh. I compare them with a dog very nearly of the same size; selecting for this purpose a thorough-bred pointer—an animal which, in its enlarged brain-box, shortened muzzle, pendulous lips, long, loose, silky, drooping ears, close, glossy coat and rat-like tail, departs as much, perhaps, as any breed, from an original stock, in all the fortuitous points engrafted through domestication. Even in this case the likeness in all essential respects is striking; and, as shown in the sequel, specimens of Indian dogs of this region can be found not certainly distinguishable from a coyoté, for a reason that will be evident. The differences between the coyoté and pointer become reduced to character of pelage and physiognomy; while the facial aspect itself, so strikingly diverse in its entirety, appears, when analyzed, much less substantially different.

To begin with size and proportions: it appears from the following measurements that the pointer and coyoté differ less in these respects than the normal individual variation among coyotés them-

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selves; and that there is no essential discrepancy whatever in general "build":—

COMPARATIVE MEASUREMENTS OF A MEDIUM SIZED MALE POINTER
AND SEVERAL COYOTÉS OF BOTH SEXES.

The measurements are given in inches and decimals.

MEASUREMENTS.	Pointer ♂ Dog.	Large ♂ Coyoté. No. 2692	Medium ♂ Coyoté. No. 2735	Large ♀ Coyoté. No. 2732	Small ♀ Coyoté. No. 2731
Standing height at shoulder.....	24	24	21	22	19
Tip of nose to root of tail.....	36	36	33	34	28
Tail to end of vertebræ.....	13	14	12	14	11
Tail to end of hairs.....	14	18	15	16.50	13.50
Tip of nose to eye.....	4	4	3.75	4	3.50
Tip of nose to ear.....	8	.....	7.50	7.75	7
Tip of nose to occiput.....	9	8.50	8.25	8.50	7.50
Elbow to end of fore claws.....	14	13.25	12	12.50	11.50
Knee to end of hind claws.....	16	16.25	13.50	.....	.....
Heel to end of hind claws.....	8	7.25	6.75	7.	6.50
Width across eyes at inner canthus...	2.50	.....	1.60	.....	.....
Width across eyes at outer canthus...	4.25	.....	3.25	.....	.....
Width across inner base of ears.....	6	.....	4	.....	.....
Height of ear above notch.....	5	.....	4	.....	.....
Width across tips of outstretched ears	15	.....	11.75	.....	.....
Greatest width of ear pressed flat...	3.25	.....	3.25	.....	.....
Tight girth of muzzle at middle.....	8.50	.....	7.50	.....	.....
Tight girth of chest.....	26	.....	19	.....	.....
Tight girth of belly.....	23	.....	16.50	.....	.....
Longest hairs of back.....	1.50	.....	5	.....	.....
Width across hairs of tail pressed flat.	.....	.....	8.50	.....	.....

The coyoté appears more stoutly built, but this is deceptive, owing to the dense furring; the various girths show the contrary. It is, however, somewhat more "compact," the limbs lacking a certain freedom of swing, if not being slightly shorter.

It would not be much to the point to compare the pelages, since the cultivated coat of the pointer differs quite as much from the shaggy one of numerous other dogs, as from that of the coyoté. It is interesting to observe, however, that even the closest-haired

pointer shows, in anger, a slight though decided "mane." The mane of the coyoté is very conspicuous, the longest hairs over the back measuring four to six inches. The furring of the tail is as extremely diverse. The tail of a coyoté ordinarily droops to the suffrago, the hairs reaching beyond half-way to the heels; it is perfectly straight; the "brush" is terete-tapering, perhaps not quite so full for its length as that of a fox: in absolute size it is just intermediate between that of a *Vulpes velox* and *V. macrourus*, both of which are smaller animals. But furring aside, we find in the total lack of curve in the thorough-bred pointer's tail, a curious coincidence if nothing more. This straightness, prized by sportsmen, the result of breeding, and often cruelly insured by removal of the terminal joints so that some of the tendons lose insertion, is a feature in which the pointer departs from most dogs (the curly tail has been laid down as a specific characteristic of "*Canis familiaris*"), and resumes that of the coyoté.

Fortuitous conditions of pelage aside, the physiognomy, an almost equally casual matter, is the most striking difference between the two. It is difficult to portray an animal's facial expression in words; in this case we can hardly do better than to say that the aspect is just between a wolf's and a fox's, but more "doggy" than either. Audubon's figure is good; if anything, the front view of the upper figure is too "foxy." The coyoté's face would be exactly matched by that of many cur-dogs, especially slender-nosed kinds, did it not lack almost entirely the frontal prominence of the latter, a feature which in some kinds of lap-dogs is exaggerated into monstrosity. The upper profile of the coyoté's face, from occiput to snout, deviates not much from a straight line, the forehead being remarkably flat. This flatness gives an appearance of breadth that is deceptive, the real width being both absolutely and relatively less than in the pointer. But the width across the ears of the pointer (six inches instead of four) is largely produced by the drooping of these organs down the side of the head. The lips are thin and scant, ordinarily showing the teeth, always parting after the animal is dead. There is something peculiar about the eyes; they seem to look more directly forward than those of the pointer. They are set very near together, the inner angles being only about an inch and a half apart, yet the obliquity carries the outer canthi over three inches apart. The ears are very large, triangular, pointed, upright, with very stiff

cartilage. When pressed apart, their tips form with the point of the snout a nearly equilateral triangle. In fine, the pointer's physiognomy differs from the coyoté's mainly in its special engrafted features, and these produce a discrepancy much greater than that existing between the coyoté and many mongrel dogs.

It is unnecessary to compare the skulls of the animals. There are no differences of moment, at least viewing the immense discrepancies existing in the crania of different breeds of dogs. Nor does an "average" dog's skull differ from a coyoté's by anything like as much as do the skulls of *C. latrans* and *C. lupus*.

It appears, then, that the pointer, though a highly specialized case of the domestic dog, is identical in essential structural points with the coyoté; differs less in size than coyotés vary among themselves; differs no more in pelage than it does from many other dogs; and, in details of form and physiognomy, differs vastly less than various dogs do among themselves. It appears, furthermore, that close as the likeness is, it is less than that subsisting between the coyoté and various kinds of dogs domesticated by the Indians.

For example, there is nothing in Audubon's description of the Hare-Indian dog specifically inapplicable to the coyoté. Even the colors are the same; the difference in pattern (masses of blackish instead of brindling) is not of the least consequence, since it is entirely unstable. Richardson noted close traits of resemblance, even to the remarkable mode of outcry—a few, short, sharp barks followed by a prolonged shrill howl. The fact that this particular strain of dog is bred beyond the present distribution of the coyoté, is, of course, not to the point in the general question. But we have much more striking and unquestionable evidence of relationship by direct descent of some Indian dogs from the coyoté. In the first place we should note that the habitual antagonism of these dogs and the coyotés is nothing but the animosity all dogs show to strangers of their own kind, an aversion probably rooted in jealousy, which is a strong canine trait. Next, we continually find dogs of both sexes, on the frontier, deserting their haunts at particular (sexual) periods; and if the occurrence of a feral wolf-dog (coyoté ♀ and dog ♂) has not been recorded, there are numerous cases of the production of the same (from coyoté ♂ and dog ♀) in domestication. I have, finally, information which I consider perfectly satisfactory, in still stronger evidence of the readiness with which the two animals interbreed. Indians not unfrequently bring it

about themselves; on suitable occasions they picket out their ♀ dogs over night, to procure the cross, with constant success. What profitable quality is secured, I do not know; but such is the case. These crosses are not known to be otherwise than fertile; and the result is, in every Indian community there are mongrel dogs shading into coyotés in every degree; all having the clear wolf strain, and some being scarcely distinguishable from a prairie wolf.

The matter of color merits passing mention. The coyoté is as constant in this respect as other feræ, and I think its peculiar coloring can be reasonably traced in certain dogs. The animal is dingy white as a ground color, which remains so on all the under parts; above it is suffused with tawny-brown (bright in summer, paler and more grayish, or quite gray, in winter), this color overlaid with a clouding of black. This black is rarely uniformly distributed; it tends to streakiness along the back and across the shoulders and hips, producing a pattern similar to that of a "brindled" bull-dog. But there is a more striking feature, and one very characteristic of the animal (the brindled gray and black being shared exactly by an ordinary strain of *C. lupus*). The top of the muzzle, back of the ears, and outside of both fore and hind legs, are usually nearly uniformly tawny. This shade is precisely the so-called "tan" of the black-and-tan terrier, and has the same general distribution. In an attempt to trace pedigree, a fact of this sort seems to rank in value with the appearance, in a horse or mule, of the stripes of a quagga-stock.

THE IRREGULAR MIGRATIONS OF BIRDS.

BY T. MARTIN TRIPPE.

THE annual migration of birds; their moving north and south in the spring and autumn, is obvious enough to every one. In its various phases it is well discussed in various ornithological works, and is pretty thoroughly understood, comparatively speaking at least. But in addition to their vernal and autumnal changes of habitat, movements occasionally take place among birds not depending upon the seasons; invasions as it were of certain prov-